

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
25 August 2005 (25.08.2005)

PCT

(10) International Publication Number  
**WO 2005/077962 A3**

(51) International Patent Classification<sup>7</sup>: **C07F 13/00**,  
A61K 51/00

(21) International Application Number:  
PCT/US2005/004872

(22) International Filing Date: 10 February 2005 (10.02.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/543,176 10 February 2004 (10.02.2004) US

(71) Applicant (for all designated States except US): **PURDUE  
RESEARCH FOUNDATION** [US/US]; 3000 Kent Av-  
enue, West Lafayette, IN 47906 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **LIU, Shuang**  
[CA/US]; 3304 Jasper Street, West Lafayette, IN 47906  
(US). **HE, Zhengjie** [CN/US]; 170 Burke Court, Apt. 312,  
West Lafayette, IN 47906 (US).

(74) Agent: **ZAYIA, Gregory, H.**; Brinks Hofer Gilson & Li-  
one, P.O. Box 10087, Chicago, IL 60610 (US).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ,  
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA,  
ZM, ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,  
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,  
GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

- with international search report
- before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

(88) Date of publication of the international search report:  
15 December 2005

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: CROWNED DITHIOCARBAMATE METAL COMPLEXES AND METHODS FOR THEIR USE

(57) Abstract: Compositions containing crowned dithiocarbamate metal complexes and methods of using these compositions; neu-  
tral and cationic radioactive metal-nitrido complexes of crowned dithiocarbamates (DTCs) and methods of using these complexes as  
radiopharmaceuticals for diagnosis and treatment of cardiovascular disorders, infectious diseases, and cancer; tripodal chelatormetal  
complexes of crowned DTCs and methods of using these complexes for treating diseases such as those characterized by nitric oxide  
overproduction; and methods of using crowned DTCs for heavy metal detoxification are described.



WO 2005/077962 A3